

APPARATUS AND METHOD FOR CLASSIFIER IDENTIFICATION

ABSTRACT

A method for classifying an incoming packet. The method includes maintaining a database associated with patterns of fields, where the fields can be network addresses. The database can be developed by mapping each pattern to a unique numeric identifier. The number of unique numeric identifiers is equal to the number of patterns, and the size of each unique numeric identifier is substantially smaller than the field of each pattern. The database can be further developed by determining a range of one or more of the unique numeric identifiers to be associated with each pattern. The range for each pattern can be bounded by a minimum unique numeric identifier and a maximum unique numeric identifier. The method also includes using a field of the incoming packet to determine an associated identifier for that field, where the associated identifier is equal to one of the unique numeric identifiers. The associated identifier can then be matched with one or more of the ranges for the patterns, and the method can then determine how to process the incoming packet.

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